

What is claimed is:

1. A drive power apparatus utilizing winds comprising:

a vertical shaft disposed vertically and rotatably;
a rotatable horizontal shaft rotatably
perpendicularly penetrating the vertical shaft;

a first and a second plate-like blade member provided
on the horizontal shaft on the opposite sides of the vertical
shaft; and

a drive power mechanism operable with the rotation
of the vertical shaft;

wherein the first and second blade members are secured
to the horizontal shaft such that their plane orientations
are deviated from each other by an angle of 90 degrees in
the peripheral direction of the horizontal shaft, and are
rocked about the horizontal shaft in an interlocked relation
to each other between the vertical and horizontal
directions.

2. The drive power apparatus utilizing winds
according to claim 1, wherein:

denoting two parts of each of the first and second
sections as defined by the horizontal shaft to be a first
and a second section, respectively, the first and second
sections are formed such as to receive wind power of different
magnitudes and provided by a weight balance adjustment of
providing a load on the side of the lower one of the rotation
momentums generated on the first and second sections by

gravitational forces.

3. The drive power apparatus utilizing winds according to claim 2, wherein:

the first and second blade members are formed by the weight balance adjustment such that the difference between the rotation momentums generated on the first and second sections by gravitational forces is at most no higher than 0.2 times the higher one of the rotation momentums generated on the first and second sections by gravitational forces.

4. The drive power apparatus utilizing winds according to one of claims 1 to 3, wherein:

a plurality of horizontal shafts are disposed as respective stages on the vertical shaft at vertically different positions thereof and in a predetermined angular interval deviation from one another in the peripheral direction of the vertical shaft.

5. The drive power apparatus utilizing winds according to claim 4, wherein:

the predetermined angle is obtained by dividing 180 degrees by the number of stages or a multiple of that angle.

6. The drive power apparatus utilizing winds according to claim 5, wherein:

the horizontal shafts constituting the respective stages are disposed helically.

7. The drive power apparatus utilizing winds according to one of claims 1 to 6, which further comprises a restricting mechanism for restricting the rotation of each horizontal shaft to a range of 90 degrees, and in which:

the restricting mechanism includes a first and a second contact member provided on the horizontal shaft on the opposite sides of the vertical shaft, and a first and a second contactable member provided on the vertical shaft and capable of being contacted by the first and second contact members.

8. The drive power apparatus utilizing winds according to one of claims 1 to 7, wherein:

the first and second blade members are provided with shock absorbers.

9. The drive power apparatus utilizing winds according to one of claims 1 to 8, which further comprises:

stoppers projecting from the vertical shaft for stopping the rotation of the first and second blade members in contact with the first and second blade members.

10. The drive power apparatus utilizing winds according to one of claims 1 to 9, wherein:

vertical shaft has bearings for alleviating frictional resistance with respect to each horizontal shaft.

11. The drive power apparatus according to one of claims 1 to 10, which further comprises:

a rotation setting mechanism for setting the direction of rotation of the vertical shaft.

12. The drive power apparatus utilizing winds according to one of claim 11, wherein the rotation setting mechanism includes:

a protuberance provided on each horizontal shaft;
and

an engagement member for determining the direction of rotation of the vertical shaft in engagement with the protuberance.

13. The drive power apparatus utilizing winds according to one of claims 1 to 12, which further comprises:

oil hydraulic bumpers provided on each horizontal shaft for setting the plate orientations of the first and second blade members.

14. A plate-like blade member used in the drive power apparatus utilizing winds according to claim 1, wherein:

denoting the two parts defined by the horizontal shaft to be a first and a second section, the first and second sections are formed such as to receive wind power of different magnitudes and are formed by providing a weight balance adjustment of providing a load on the side of the lower one of the rotation momentums generated on the first and

second sections by gravitational forces.

15. The blade member according to claim 14, wherein:
the weight balance adjustment is made such that the difference between the rotation momentums generated on the first and second sections by gravitational forces is at most no higher than 0.2 times the higher one of the rotation momentums generated on the first and second sections by gravitational forces.

16. The blade member according to claim 15, wherein:
the rotation momentum difference is set by making the weights per unit area of the first and second sections different.

17 The blade member according to claim 16, wherein:
the weights per unit area of the first and second sections are made different by providing a load to either one of the first and second sections.

18. The blade member according to claim 16, wherein:
the weights per unit area of the first and second sections are made different by forming the first and second sections from materials of different specific gravities.

19. The blade member according to claim 16, wherein:
the weights per unit area of the first and second sections are made different by setting different thicknesses

of the first and second sections.

20. The blade member according to claim 14, wherein:
for reducing the inertial momentum which is increased at the time of the weight balance adjustment, the position of the load disposed in the weight balance adjustment is set to be within 0.1 times the width of the load provision side member from each horizontal shaft.

21. The blade member according to one of claims 14 to 20, which has an auxiliary wing extending in a direction perpendicular to each horizontal shaft.

22. The blade member according to one of claims 1 to 20, which has grooves formed in its surface.

23. A rotating member utilizing winds comprising:
a vertical shaft disposed vertically and rotatably;
a rotatable horizontal shaft rotatably
perpendicularly penetrating the vertical shaft; and
a first and a second plate-like blade member provided on the horizontal shaft on the opposite sides of the vertical shaft;

wherein the first and second blade members are secured to the horizontal shaft such that their plane orientations are deviated from each other by an angle of 90 degrees in the peripheral direction of the horizontal shaft, and are rocked about the horizontal shaft in an interlocked relation

to each other between the vertical and horizontal directions.

24. The rotating member utilizing winds according to claim 23, wherein:

denoting two parts of each of the first and second sections as defined by the horizontal shaft to be a first and a second section, respectively, the first and second sections are formed such as to receive wind power of different magnitudes and provided by a weight balance adjustment of providing a load on the side of the lower one of the rotation momentums generated on the first and second sections by gravitational forces.

25. The rotating member utilizing winds according to claim 24, wherein:

the first and second blade members are formed by the weight balance adjustment such that the difference between the rotation momentums generated on the first and second sections by gravitational forces is at most no higher than 0.2 times the higher one of the rotation momentums generated on the first and second sections by gravitational forces.

26. The rotating member utilizing winds according to one of claims 23 to 25, wherein:

a plurality of horizontal shafts are disposed as respective stages on the vertical shaft at vertically different positions thereof and in a predetermined angular

interval deviation from one another in the peripheral direction of the vertical shaft.

27. The rotating member utilizing winds according to claim 26, wherein:

the predetermined angle is obtained by dividing 180 degrees by the number of stages or a multiple of that angle.

28. The rotating member utilizing winds according to claim 27, wherein:

the horizontal shafts constituting the respective stages are disposed helically.

29. The rotating member utilizing winds according to one of claims 23 to 28, which further comprises a restricting mechanism for restricting the rotation of each horizontal shaft to a range of 90 degrees, and in which:

the restricting mechanism includes a first and a second contact member provided on the horizontal shaft on the opposite sides of the vertical shaft, and a first and a second contactable member provided on the vertical shaft and capable of being contacted by the first and second contact members.

30. The rotating member utilizing winds according to one of claims 23 to 29, wherein:

the first and second blade members are provided with shock absorbers.

31. The rotating member utilizing winds according to one of claims 23 to 30, which further comprises:

stoppers projecting from the vertical shaft for stopping the rotation of the first and second blade members in contact with the first and second blade members.

32. The rotating member utilizing winds according to one of claims 23 to 31, wherein:

vertical shaft has bearings for alleviating frictional resistance with respect to each horizontal shaft.

33. The rotating member utilizing winds according to one of claims 23 to 32, which further comprises:

a rotation setting mechanism for setting the direction of rotation of the vertical shaft.

34. The rotating member utilizing winds according to claim 33, wherein the rotation setting mechanism includes:

a protuberance provided on each horizontal shaft;
and

an engagement member for determining the direction of rotation of the vertical shaft in engagement with the protuberance.

35. The rotating member utilizing winds according to one of claims 23 to 24, which further comprises:

oil hydraulic bumpers provided on each horizontal shaft for setting the plate orientations of the first and second blade members.